ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

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THOMAS V. SKINNER, DIRECTOR

217.782.6762

February 15, 2001

Mr. Kevin Turner
U.S. EPA
c/o Crab Orchard National Wildlife Refuge
8588 Route 148
Marion, IL 62959

Reference: 1630200005 St. Clair County
Sauget Area 1 Site
Superfund/Technical
Time Critical Removal Action Work Plan/Response to Comments - Part III
Administrative Order dated May 31, 2000; Docket No.: V-W-99-C-554

Dear Mr. Turner:

The purpose of this letter is to provide you with a paper version of Rob Watson's review comments and review notes on the referenced document dated January 22, 2001. It is my understanding that today Rob is sending an electronic version of his comments and notes to you and Mike McAteer.

If you have any questions, please call me at 217.785.9397 or Rob at 217.524.3265.

Sincerely,

Candy Morin

Candy Morin, Remedial Project Manager
National Priorities List Unit
Federal Site Remediation Section
Division of Remediation Management
Bureau of Land

Enclosure

cc w/enclosure: Mike McAteer, EPA Region V
W. Rob Watson, IEPA
Mike Henry, IDNR
Kevin de la Bruere, USFWS

sgtarea1/wrwrawp02.01

1630200005 – St. Clair County
Sauget Area 1, Dead Creek
Sediment Containment Cell
Superfund/Technical File

Reviewer: Rob Watson
Review Dates: February 8, 2001 to February 15, 2001

Re: Response to Comments Part III
Time Critical Removal Work Plan, Dead Creek Sediment and Soil in Sauget and Cahokia

REVIEW NOTES

Introduction

On January 22, 2001, Solutia submitted responses to the last group of my comments that have not been addressed. This submittal is considered Response to Comments Part III. The format for these review notes follows that of the original comments sent to Solutia on August 31, 2000.

These review notes pertain solely to the January 22, 2001 submittal. No other aspects of the Design Report were reviewed at this time.

Comments

The responses to all comments (25, 27, 35, 36, and 85) do not indicate where the information provided with the response will be included in the final Design Report.

Unacceptable Responses

18, 19: Figure 3-5 was not provided.

36: The response did not demonstrate why hard pipes are not necessary for the leachate collection system.

37.c: The response did not adequately address the questions regarding the leachate levels in the HELP model.

38.b: The issue of clogging and cleanup of the leachate collection system needs to be addressed before the system is installed. (This is similar to the response given to Comment 82.)

85: The response does not adequately address concerns regarding the design of the run-off control system.

COMMENT	M/S GROUP	DISCUSSION OF RESPONSE TO COMMENTS
15	9	OK. The proposed revisions to Section 4.1.5 address protection of the liner materials from potential wind damage.
17	4	OK. Figure 3-1 now shows the location of the proposed landfill relative to the soil borings.
18	4	**Not Adequate:** Figure 3-5, a geologic cross-section from the surface down to bedrock, was not provided in Attachment 2 (This attachment was empty).
19	8	**Not Adequate:** Figure 3-5, a geologic cross-section from the surface down to bedrock, was not provided in Attachment 2 (This attachment was empty).
22	5	OK. An additional site investigation of the surficial soils was performed by URS (dated 12-21-00). Bearing capacity, settlement, slope stability, and liquefaction were evaluated. The conclusions of this geotechnical investigation indicate the design of the proposed landfill is acceptable. The response indicates this information will be included as Attachment A of the final Design Report.
23	3	OK. See discussion on Comment 22 above. The ultimate bearing capacity of the soils was re-evaluated by URS and found to be acceptable. This in formation will be included as Attachment B of the final Design Report. **Note**: ***The additional geotechnical evaluation performed by URS found the undrained shear strengths and ultimate bearing capacity of the soils to be approximately ½ of the values originally indicated in the Design Report.*** Section 4.2.2 of the final Design Report will be revised to reflect this information.
25	3	OK. The revised wording in Section 4.2.6 is acceptable. Calculations showing hydrostatic uplift pressure under the landfill will be less than the weight of the landfill will be included in Attachment B to the final Design Report. Where?
26	10	OK. The results of the compatibility testing are acceptable. These results will be included as Attachment H to the final Design Report
27	4	OK. The revised wording in Section 4.3.2 is acceptable. The additional calculations of HDPE elongation due to differential settlement provided in Attachment 8 are also acceptable and will be included in the final Design Report. Where?
35	3	OK. The revised wording in Section 4.5.2 is acceptable. The calculations regarding the transmissivity of the geonet drainage material provided in Attachment 9 are also acceptable and will be included in the final Design Report. Where?
36 (a, b)	2	OK. The revised wording in Section 4.5.3 is acceptable. The response states that the calculations in Attachment 10 demonstrate the design of the leachate collection system (drainage layers without hard piping) are well suited for the given design.

COMMENT	M/S GROUP	DISCUSSION OF RESPONSE TO COMMENTS
		The calculations show the maximum leachate head (without a cover system) could be as much as 17 feet. Thus, it is not clear how this calculation provides the required demonstration. Also, where will this information be provided in the final Design Report?
37(a, b, c)	5	a. OK. Cross Sections are provided in Attachment 11. They will be included in Attachment C of the final Design Report. b. OK. Justification for the assumed (default) moisture content of the waste sediments was provided in the response. c. It is still not clear how/if the waste sediments (layer 6) is included in the HELP model of the closed landfill. The annual totals for year 1 do not include this layer. Second, it is still not clear why the head on the HDPE (layer 8) goes to 0.0' in the first year. Given the rain that could fall on the landfill during construction, (see response to Comment 36 and Attachment 10), it seems unlikely that all this water would be gone in 1 yr.
38	5	a. OK. The revised wording in Section 4.5.7 and calculations in Attachment 12 are acceptable. The calculations will be incorporated into Attachment C of the final Design Report. b. The response states that management of clogging and cleanup procedures will be provided in the O&M manual. This is not acceptable. First, the response did not address the question of how clogging would be detected. Second, these procedures need to be part of the Design Report since the leachate collection system will not be able to be modified once the landfill is completed. While it is true that the models show very little leachate is expected once the landfill is closed, clogging and cleanup of the leachate collection system are still important issues now because a problem with the cover system could result in an increase in leachate in the future.
45	2	OK. The revised wording in Section 2.4 of Specification 02200 is acceptable.
46(a, b, c)	7, 2, 4	a. OK. The revised wording in Section 3.6.A.4 of Specification 02200 is acceptable. b. OK. The maximum loose lift thickness is specified as 12 inches in Section 3.6.B.5. c. OK. The revised wording in Section 4.1.1 is acceptable.
47	4	OK. The wording in Section 3.10 of Specification 02200 was revised to require an Illinois PE certify all data.
59	None	OK. It is acceptable to anchor the liner system horizontally provided this method is strong enough to hold it in place.
60	2	OK. Section 3.6 Conformance Testing (of interface friction angles) has been added to the GCL Specification 02245. Provided the final version is revised to state the soil – GCL and soil – smooth geomembrane interfaces will also be evaluated as

COMMENT	M/S GROUP	DISCUSSION OF RESPONSE TO COMMENTS
		indicated in response to Comment 24.f.
63	2	OK. Specifications for landfill vents are shown on Figure 5-3.
72	2	OK. The revised wording in Section 2.5.2 of the CQA manual indicates that fusion welding is the preferable method for joining seams. This is acceptable.
73	2	OK. The revised wording in Section 4.2 of the CQA manual indicates transmissivity is one of the conformance tests for the geonet.
76	7	OK. The thicknesses of the loose lifts of soil are specified in Section 3.0 of Specification 02200.
77	2	OK. Location of the borrow source is the responsibility of the contractor.
79	4	OK. The response indicates that references to "low permeability fill" will be removed from the Design Report.
83	2	OK. A new Section 6.3, Repairs During Construction, will be added to the Design Report.
85	4	Revised stormwater flow calculations were provided in Attachment 16. However, the response does not indicate where this information will be provided in the Design Report. In addition, the following questions still remain regarding the design of the run-off control system. a. The Design Report does not describe how the water will be managed when it reaches the bottom of the berm. b. Illinois EPA is concerned with the design of the entrance to the downchute. This part of the design will redirect approximately half of the run-off 180°. A change in the flow direction to this extent will likely result in increased erosion to the drainage swales/berms. The report needs to discuss this design aspect of the system, how it will be designed to resist erosion, and why this design was chosen over other options such as having two down chutes. c. The response does not indicate why a 2 yr storm event is used to calculate Time of Concentration. d. The calculations of the downchute on page 3 of 7 do not include the depth of flow or indicate if a velocity of 8.9 fps is acceptable.
87	4	OK. A new Section 6.4 will be added to the Design Report to indicate that RCRA post-closure requirements will be addressed in the O&M Plan.